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EXAMINER

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2747

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 12

Application Number: 08/777,958

Filing Date: 12/24/96

Appellant(s): Hamilton et al

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Charles Hieken  
For Appellant

**EXAMINER'S ANSWER**

This is in response to appellant's brief on appeal filed 1/19/99.

**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

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A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because based on the argument as presented by appellant, there are three groups. Group I, claims 1-4, and 9. Group II, claim 5. Group III, claims 6-10.

**(8) *ClaimsAppealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

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Newcomb, D. "Something Fishy." Car Audio And Electronics, (Feb. 1992),

pp. 28-32.

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newcomb.

Regarding claims 1-4, and 9, Newcomb discloses an audio speaker system for a vehicle in a magazine article. The woofer, mounted in an enclosure, is placed in the trunk, clear of the rear deck, as shown. However, Newcomb fails to explicitly show that the woofer is outside the spare tire compartment. Analyzing claim 1, it merely contains the description of a vehicle and a woofer within the trunk above the trunk floor and outside the spare tire. The claim never specify that the woofer should be in operational condition, i.e. connecting to an amplifier or a radio to generate the sound. As shown in the pictures on p. 30, the car disclosed in Newcomb meet the requirement of the car as specified in claim 1. The remaining of the limitation will be met when someone purchases a woofer from a store and ready to bring it home. It would have been obvious to place the woofer in the trunk of the car as disclosed in Newcomb, above the trunk floor and outside the spare tire compartment (since it was already occupied with four woofers) so passengers can sit in the passenger compartment. Furthermore, by hiding it in the trunk, the chance that the woofer being stolen is greatly diminished.

The limitation of claim 1 is met even assuming that the woofer is operational when being placed in the trunk. It was considered well known in the art that the location of the woofer is

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generally not strictly limited to a specific location for a high fidelity stereo sound system because the low frequency sound signal produced by the woofer does not carry any spatial information as required for portraying the stereophonic sound image. Therefore, the woofer can be placed almost anywhere around the listener within a reasonable distance. Newcomb shows the woofer being placed inside the spare tire compartment. As disclosed by Newcomb, the woofers are placed in the spare tire compartment for aesthetic reason (second column of p. 30). However, as discussed above, one would have expected that the woofer can be placed anywhere, including the rear trunk corner at the rear of the vehicle, inside the trunk, because altering the location of the woofer inside the trunk **does not produce any acoustically different sound effect**. It would seem to be reasonable for one skill in the art to place the woofer outside the spare tire compartment, such as at the rear trunk corner, if one wants to keep the spare tire inside that compartment. It would also considered a common sense to not place the woofer in the center of the trunk (for example, right above the spare tire compartment), so one can put luggage, shopping bags or other articles inside the trunk. Thus, as one can see, there is no acoustic engineering skill involved wit respect to relocating a woofer within the trunk. Any one with a common sense can change the location of the woofer according to his/her need, such as putting the woofer into the spare tire compartment, or at the rear corner above the trunk floor. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system as taught in Newcomb by placing the woofer inside the trunk clear of the rear deck, outside the spare tire compartment, above the trunk floor and at the rear trunk corner, since it has

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been held to be within the general skill of a worker in the art to rearrange the location of the woofer as a matter of design choice. *In re Japikse*, 86 USPQ 70.

Regarding claims 5 and 10, the limitation in these claims are not functionally related to the limitation in claim 1 since the claims never specify that the frequency responses are caused by the woofer being placed in the trunk, not mounted on the rear deck as disclosed in the specification as originally filed. With the woofer mounted inside the trunk as taught in Newcomb, not conventionally mounted on the rear deck, the claimed frequency responses are inherent met.

Regarding claim 6, Newcomb fails to show that the rear deck is free of speaker holes. The speaker holes on the rear deck as discussed on p. 32 of Newcomb are for additional speakers, such as mid-ranges and tweeters. They are acoustically different from the large-sized woofers being placed in the spare tire compartment. It was considered well known in the art that only one left and one right speakers (covering the mid to high frequency ranges) are required to create a stereophonic sound image (as discussed above, the sound from a woofer does not provide spatial clue). Having additional speakers, including a total of four, six or eight speakers for mid to high frequency signals will create a better sound image, but still a stereophonic sound image. Having more speakers than necessary will cost a lot more than necessary, and also involve a lot more wiring and more needed driving power. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system as disclosed in Newcomb by not mounting any additional mid-ranges and tweeter at the rear deck in order to save cost,

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wiring and power, as long as the remaining mid-ranges and the tweeters can provide quality sound imaging.

Regarding claims 7 and 8, as discussed above and repeated here again, it would have been obvious for the designer to mount the woofer any where inside the trunk, including at a rear trunk corner at the rear of the vehicle since altering the location of the woofer inside the trunk does not produce any acoustically different sound effect. The limitation that mounting woofer in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with the woofer mounted in the rear deck is inherently met.

#### **(II) Response to Argument**

On p. 4, Appellant argued that Newcomb fails to suggest the desirability of the modification as required by the establishment of 103 rejection.

In response to applicant's argument that there is no suggestion to modify the references, the examiner recognizes that obviousness can only be established by modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the reference itself or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it was within the level of common sense to place a newly purchased woofer into the trunk above the trunk floor and above the spare tire compartment in order to

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provide sitting area for passengers in the compartment. Also it was within the level of common sense to place a woofer anywhere within the trunk, including at the rear corner as a matter of space management in order to store a spare tire in the spare tire compartment. Noticed that both modifications do not need engineering skill. As discussed by Appellant on the last few lines of p. 4, the purpose of having the woofers being placed inside the spare tire compartment is to hide the large devices. It does not provide any unexpected acoustical sound effect. Therefore, placing the woofers within anywhere within the trunk, clear of the deck and above the trunk floor, was just a matter of space management. Of course, no one with a slight common sense will put the woofer right above the spare tire compartment. By mounting the woofer on the side on the rear corner, only a small amount of space will be eliminated comparing with mounting the woofer to the rear deck.

On p. 5, Appellant argued that examiner uses hindsight to make 103 rejection, and also request the examiner to point the exact word in the reference to suggest the desirability of modification.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the

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time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). There is no requirement that the exact word, phrase, clause or sentence in the reference should be presented to suggest the modification. As long as the examiner taking only knowledge which was within the level of ordinary skill at the time of the claimed invention was made, such a reconstruction is proper. Based on the rejection above, the examiner does not use any more knowledge than what is known to one skilled in the art to suggest the desirability of modification.

On p. 6, Appellant argued that *In re Japikse* is inapposite.

The case law is cited to merely indicate that it was considered as a level of engineering design choice to relocate the woofer to other location without producing any different acoustical sound effect. The advantages of putting the woofer to the side and in the rear corner, clear of the rear deck are to keep the spare tire in the spare tire compartment while providing trunk space to shopping bags or luggage.

On p. 9, Appellant argued that there is no mention in the reference about the frequency responses as specified in the claim.

Referring to claim 5, it is cleared that the limitation in the claim does not identify that the frequency responses being the result of mounting the speakers inside the trunk, not on the rear deck as specified in the specification as originally filed. Nevertheless, the specification as originally filed mentions that it was well known that there are peak and dip in certain

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frequency ranges with the woofer being mounted on the rear deck. By having the woofer placed in the trunk and clear of the deck, the claimed frequency responses will be achieved. Since the woofers in Newcomb are not mounted on the rear deck, and are located within the trunk, the same frequency responses are inherently met despite no exact matching words are being disclosed.

On p. 9, Appellant argued that Newcomb fails to mention rear deck, let alone the deck being free of holes.

Newcomb does mention the rear deck. See the two pictures on the upper half of p. 30. Furthermore, on the first column of p. 32, Newcomb discusses the mid-ranges and the tweeters being mounted on the rear deck. However, as discussed in the rejection above, these mid-ranges and tweeters are functionally different from the woofers being mounted within the spare tire compartment. It is not necessary to have any mid-ranges and tweeters being mounted on the rear deck, since there are at least four mid-ranges and tweeters being mounted in the doors and rear side panels as disclosed in Newcomb to create the stereophonic sound image. By eliminating the extra speakers on the deck, the cost of the audio system will be reduced with less parts, wiring and power.

On pp. 10-12, Appellant argued the remark being made by the examiner on the final rejection.

The examiner still believe those case laws are being properly applied.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

PWL  
July 17, 1999

  
JING LEE  
PRIMARY EXAMINER

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